

CLINICAL MEDICINE

Established 1894

Volume 58

June, 1951

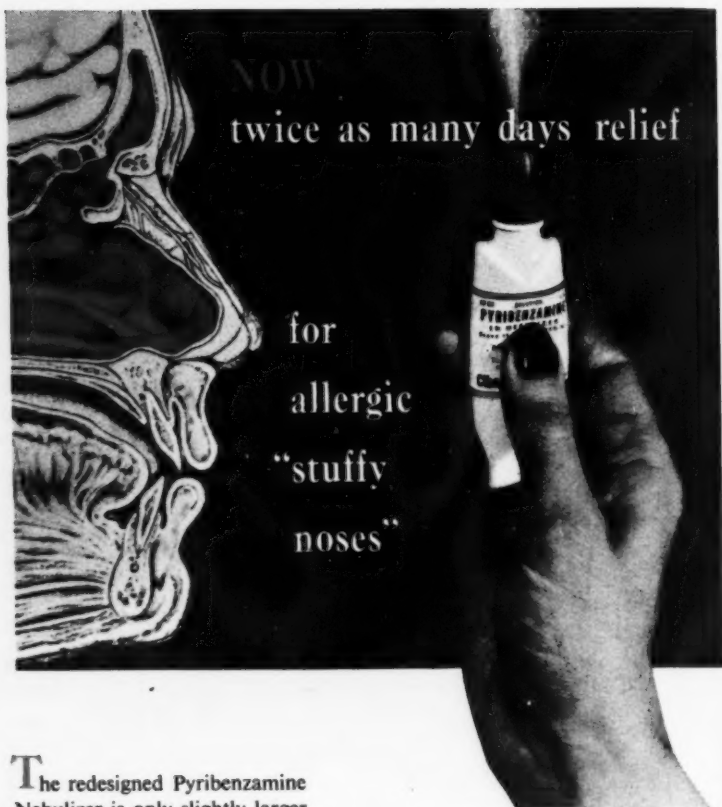
No. 6

Editorial

- Weather, Biorythm and Disease 137
by Frederic R. Stearns, M.D.

Original Articles

- Cancer Detection 139
by Edward J. Jordan, M.D.
- Review Notes on Current Progress
in Endocrinology: II 143
by E. A. Haunz, M.D., M.S.
- Polycystic Ovarian Disease 148
by W. E. Lockhart, M.D.
- History, Health and Climatic Fluctuations .. 149
by Raymond H. Wheeler
- The Use of Superheated Tungsten in
Radiation Therapy 152
by Howard Moore, M.D.
- Diagnostic Suggestions 156
- Therapeutic Suggestions 159
- Book Reviews 162
- Books Received 163
- Send For This Literature 164
- New Products 165



The redesigned Pyribenzamine Nebulizer is only slightly larger than the original one but holds twice the quantity of Pyribenzamine Nasal Solution 0.5%.

A mist of the potent antihistaminic Pyribenzamine® (tripelennamine) hydrochloride is distributed by the Nebulizer throughout the nasal passages. Relief is usually prompt and prolonged, with virtually no possibility of systemic side effects.

New Pyribenzamine Nebulizer

Ciba PHARMACEUTICAL PRODUCTS, INC., SUMMIT, N. J.

EDI

We

By F
Edit

Th
has
gati
on th
stood
cosm
gove
these
tors
uatio
tour.
er an
Sprin
came
the
the
which
ably
sum
the
involv
cy fo
tion
may
anced
oxia p
and
death
be ge
that
is not
endog
by ex
menta
"cosm
short
that c
chemi
rhyth
invest
freque

June, 1

Weather, Biorhythm and Disease

By **FREDERIC R. STEARNS**

Editor

The late Dr. William F. Petersen has devoted many years of investigation to the influence of weather on the human organism. He understood weather as an exponent of a cosmic effector mechanism which governs organic reaction patterns; these, again, are the forming factors of cultural and civilizatory situations. Man is "a cosmic resonator." In his last book "Man, Weather and Sun" (Charles C. Thomas, Springfield, Ill., 1947) Petersen came to the conclusion that "in the total environmental situation the change in the air mass in which the organism exists is probably of major significance in the sum total of effectors" and "that the effector mechanism primarily involves a tide of oxygen inadequacy followed by a phase of correction or overcorrection." This tide may result in a return to a balanced "Biotonus level" or, when anoxia persists, may lead to functional and anatomical depression and death. Therapy, therefore, should be governed by the consideration that the condition of the organism is not only determined by inherent endogenous, but, to a great extent, by exogenous forces. These environmental dynamics as initiated by "cosmic effectors" show either short or long time periodicity so that organic reaction patterns, biochemical and biophysical, also are rhythmic in character. Petersen's investigations and deductions were frequently viewed with criticism in

this country (although he also found a number of followers); in Europe, on the other hand, the concept of biorhythm in relation to weather has been widely recognized as an important medical factor. Stress has been laid on the correlation of weather differences and reactions of the autonomic nervous system. These fluctuations in reactions can be observed already in the 24 hour day-night rhythm (parasympathetic prevalence during the night with culmination in the early morning hours: lowering of body temperature, slowing of heart rate, decrease of blood pressure and blood volume per minute; and sympathetic predominance during day time culminating in the early evening hours and generating dissimulatory adrenergic function). These fluctuations are much more noticeable in significant alterations of properties in the air masses (warm and cold fronts, storms and thunderstorms, etc.). Cold fronts seem to stimulate parasympathetic reactions while warm fronts favor sympathetic responses. In patients with a tendency to spastic reaction patterns, e.g. angina pectoris, the additional vagus stimulation, occurring with cold fronts, may initiate a critical attack, eventually result in death.

The enhanced sympathetic irritation, occurring during warm fronts may cause, even in healthy individuals, insomnia and nightly emotional instability. Petersen has elaborated on the influence of weather fluctuations on births, deaths, suicides, blood pH, epidemics and modifications of genetic trends. The German literature has emphasized the

EDITORIAL

dependency of metabolism, endocrine mechanism, vital capacity, kidney and liver function on atmospheric alterations. An interesting paper by Düll points to the differences in acoustic and optic reaction times in correlation with weather changes and with the day-night rhythm. Another paper points out that diuretics administered in the afternoon are more effective than when given in the morning; during the natural sympatonic phase the urine secretion in itself is better than during the vagotonic evening phase. On the other hand, vagus stimulating drugs, such as digitalis, will have a more forceful effect when given during the vagotonic evening phase; yet, the danger of a cumulative action is increased, too. Given in the early afternoon, therefore, digitalis will counteract the natural sympathetic prevalence and will be more useful therapeutically.

Some more examples, taken at random from the literature, may illustrate this interesting topic: S. Rusznyák (Wien. Arch. Inn. Med. 3:379, 1922) has noticed a higher incidence of hyperthyroidism in spring and September than in other periods of the year. F. Jacobs (Arch. F. Gynaek., 159:266, 1935) has stated that every change in atmospheric pressure is mirrored in the change of the onset of labor. A. G. James (Ann. West. M. & S. 2:558, Dec., 1948) has found that postoperative hemorrhage after tonsillectomy occurred in association with environmental temperature peaks. L. Rogers (J. Hyg., London 46:19, March 1948) has stated that in tropical countries, with well marked dry and wet seasons, the annual decline in smallpox incidence to a low minimum in relation to high absolute humidities during the rainy season

is the rule. A. W. Allen (Bull. New York. Acad. Med. 27:169, Apr. 1946) has found that the peak incidence of thrombosis and embolism is in winter months while the lowest incidence is in summer. L. Lehmann (Lancet 1:493, 1944) stressed that babies born in spring showed more commonly low prothrombin values than those born in summer. H. L. Hodes et al. (Am. J. M. Sc. 209:64, 1945) pointed to the fact that rapid spread of streptococci occurs more readily in winter than in fall. A. C. Ivy (Ohio State M. J. 40:925, 1944) emphasized that there is a marked tendency of gastric ulcer to recur in spring and fall. C. A. Mills (J.A.M.A., Oct. 30, 1943) pointed out that in north temperate latitudes life hazards reach a peak in winter cold and storminess while in the southern hemisphere winter brings much less of an increase in life hazards, for the storminess is least during midwinter cold. The same author (Am. J. Psychiat. 91:669, Nov. 1934) found suicide rates highest where barometric pressure and temperature changes are most frequent and severe; with falling pressure and rising temperatures the suicide rates rapidly rise.

These quotations from the literature could easily be multiplied. For those readers who should be interested in these problems we add some bibliographical data: Wm. F. Petersen. The Patient and the Weather. Edwards Brothers. Ann Arbor, Mich., 1934-1937 — Manfred Curry, Bioklimatik, Munich 1946 — B. DeRudder. Ueber Kosmische Rhythmen beim Menschen. Leipzig, 1937—A. L. Tschigewsky. Les Épidémies et les Perturbations Électromagnétiques, Paris, 1938—L. Chalmers. An Account of the Weather and Diseases in South Carolina.

Cancer Detection

A Program for Rural Practitioners

By EDWARD J. JORDAN, M.D.

*Assistant professor of Clinical Surgery,
Department of Surgery; St. Louis University*

The rural practitioner needs no program for cancer detection. The men practicing in the small towns and villages are as acutely aware of the cancer problem as their colleagues in the large medical centers. The busy country doctor is handicapped by only one thing and that is the lack of time to do what he wants to do in regard to his patients. However, it is his duty, both to his own peace of mind and to his patients, that he make his own contribution to the detection of cancer. Early diagnosis and early adequate treatment are what we have today to offer to the patients. Only by repeated examinations can early diagnosis be established and it is up to each physician, no matter where he practices, to make his office a center for the detection of cancer.

What will the rural doctor need in his office to help him detect early cancer? In most cases. I would say, that the ordinary doctor has all the essentials in his office at all times. If we can stop and think about cancer for a while we will learn much. Most of the common types of cancer are in regions or organs that can be seen as well as felt. When we consider that the commonest sites of cancer are the skin, breast, cervix, stomach and rectum, we can see that with the exception of the stomach, most common cancers are visible or palpable, or both.

The American College of Surgeons in their Bulletin, outline the minimum essentials for cancer detection in the office. They consider, adequate equipment, complete physical examination and complete records to be the most important aids. What do we mean by adequate equipment? All that is necessary are the instruments that a doctor has when he opens an office, namely, a light, a tongue blade, stethoscope, otoscope and ophthalmoscope combined, a laryngeal mirror and a blood pressure apparatus. A vaginal speculum and a proto sigmoidoscope should be included in the essential instrument list. On the extra instrument list, I would include an actual cautery, a few surgical instruments and a small autoclave and sterilizer.

The most difficult problem he will have will be the education of himself and his patients to have complete periodic examinations in which a complete physical including vaginal and rectal examinations are done. The rectal examination should include a proctoscopy. Naturally, all of these procedures and record keeping will take a great deal of his time and his nurse's time, if he is fortunate to have a nurse aiding him. Once he starts the system he can arrange his follow up work so that the appointments for complete physical examinations are staggered throughout the week or month. As he works along he will become more accustomed to the routine and will find out that his records are more complete and his people more satisfied. Many of the cases he examines will probably show nothing suspicious except the rhinitis or pharyngi-

UNIVERSITY OF MICHIGAN LIBRARIES

ORIGINAL ARTICLES

tis that brought the patient to the doctor originally, but, one cancer found early and adequately treated is worth a life time of seeking.

To cover the field of cancer detection properly the physician should be most suspicious and inquisitive. He should know the common sites in which cancer occurs. He should have some ideas about the so-called precancerous lesions. He need not quibble and quarrel about chronic cystic mastitis being precancerous or not, but, he should know that a mass or a lump in the breast is cancer until he proves it to be otherwise. All lesions, whether on the skin, mouth, breast, anus, cervix, all masses, no matter where found, any abnormal bleeding, should be considered as cancer until proved differently.

How can a physician in a rural community do this? If he practices in an area close to a hospital and a pathologist, his problems are solved. It will be a little more difficult for the practitioner of a community without benefit of hospital or pathologist. The fact that he has no nearby pathologist should not, however, hinder the doctor in detecting and diagnosing early cancer. If, along with his other equipment, he keeps in his office a supply of containers similar to the ones used by the insurance companies to mail blood and urine samples, he will be at most only three to four days away from the pathologist of his choice. Any specimen he wishes to take and send to a pathologist he can by simply putting the biopsy in 10% formalin solution and forwarding it to the pathologist by regular or air mail. A week should suffice to cover the entire time from taking the biopsy to receiving a report from the pathologist.

Biopsies of skin, cervix, rectum and anus, bladder, mouth or lips can probably be taken in this way if necessary. However, if biopsies of bone, thyroid or breast are to be taken, it is better judgment to have the patient in the hospital at the time the biopsy is done. The smear technique as advocated by Papanicolaou needs a special procedure and will not help the physician very much in rural practice. If the physician is able to interpret the smears himself, the cervical smear of his patients will probably help him. But, for the general man in the country, the biopsy will tell him more.

What should the physician look for in the physical examination? Some system of examination should be established by the doctor and followed through on each case. In this manner, no area will be missed.

Head and Face

Look at the patient. The skin of the face, neck, ears, nasolabial fold, and angles of the mouth are familiar places for basal cell cancer to start. The upper part of the face, especially in older individuals, and in outdoor workers is the frequent site of basal cell cancer. Likewise, senile keratoses, sebaceous cysts, dermoids, lipomas have a tendency to occur on the face, head and neck especially.

Eyes

The sclera and conjunctiva are sites of melanoma occasionally.

Nose and Throat

Here, a history of bleeding, chronic drainage should be investigated. Trans-illumination of the sinuses, and x ray may help in early diagnosis of cancer.

ORIGINAL ARTICLES

Lip, Tongue and Mouth, Pharynx and Larynx.

Most of these structures can be inspected by direct vision. All the doctor needs is a light and tongue blade, a laryngeal mirror and a pair of rubber gloves. The buccal mucosa especially where the cheek meets the gums, and the floor of the mouth should be inspected and palpated carefully. The pharynx and larynx and base of the tongue can be seen by means of the laryngeal mirror.

The lower lip is the most common site of carcinoma in this area. Cancer of the upper lip can also occur, but is not as common. The angles of the mouth, the floor and the cheek are frequent sites of cancer also. Likewise, while the oral cavity etc., are being examined, the examiner should look for white flat or elevated leucoplakic patches, forerunner of cancer and frequently seen in pipe smokers or tobacco chewers.

Breast

Any mass or lump in the breast is cancer until proved otherwise. These patients should be in the hospital from the beginning and biopsy taken in a hospital.

Skin

Exposed surfaces are frequently the most common sites of cancer. The areas around the neck and waist line should be carefully inspected also for lesions which though not malignant may progress to malignancy due to constant irritation.

Respiratory System

Physical examination reveals very little to aid in early diagnosis. X-ray, bronchoscopy and the smear studies may help.

Gastro Intestinal System

Very little can be done to aid the rural practioner in early diagnosis of cancer of the upper gastro-intesti-

nal tract unless he is equipped to do his own esophagascopics or gastrosopies. He can, however, diagnose early cancer of the recto sigmoid, rectum and anus, by proctosigmoidoscopy and digital examination. Rember, that according to all authorities, 65-70% of all malignancies of the colon occur at the recto-sigmoid or distal of this area. No patient with any type of bowel complaint should be allowed out of the office without a proctoscopic and a digital examination being done.

Genito Urinary System

If the practitioner does his own cystoscopies in his office, he should include this examination in his routine. Any lesion of the bladder or prostate may be felt and sometimes seen. A biospsy may be taken at the time of examination, if necessary.

Osseous System

A swelling of a bone may be palpated or seen. Suspected cases should always be hospitalized and studied in a hospital, if possible.

Brain and Peripheral Nervous System

Suspected tumors of the brain or nervous system, likewise, should be hospitalized and given the benefit of a complete hospital work-up.

Taking the Biopsy

Skin

Small lesions of the skin are best done by excising the total lesion. A few sutures will usually suffice for closure. Larger lesions are more difficult to handle. If the lesion is suspicious enough to warrant a biopsy it is better surgical judgment to remove the entire lesion instead of an edge of the lesion. Many lesions will suddenly flare up when irritated. Likewise, the danger of missing the correct site for biopsy is eliminated when the entire lesion is ex-

ORIGINAL ARTICLES

cised. If the lesions are large enough to require skin grafting after removal, it is probably better judgment to remove the lesion in a hospital, unless the practitioner is equipped to take care of such cases in his office.

Lip

Small lesions of the lip may be removed by a V incision staying at least a centimeter away from the lesion. Closure can be done with a few sutures, the important part of the suturing being that the vermilion border of the lip be brought together properly.

Mouth

Suspicious lesions of the floor of the mouth or buccal mucosa may be excised and then the area cauterized with the actual cautery. The tongue is a dangerous organ because carcinoma spreads so fast from the original site. Likewise, the tongue is a very vascular organ. Biopsies of the tongue may be taken in the office if the lesion is small. Profuse bleeding can occur. The practitioner will be wise to have a cautery close by to sear the bleeding vessels. If the lesion on the tongue is large, the patient should be hospitalized before any definitive treatment is given.

Pharynx, Tonsil and Hypopharynx

Biopsies may be taken with a biting type of instrument. The actual cautery should be nearby to help control hemorrhage.

Larynx

Biopsies of the larynx are probably best handled in a hospital.

Bronchus - Lung

Suspected carcinoma in these structures is best taken care of in a hospital.

Esophagus and Stomach

Biopsies are best taken in a hospital.

Recto-Sigmoid, Rectum and Anus

65 - 70% of the carcinoma of the colon occur in these areas. Biopsies may be taken with a biting type of instrument by means of the proctoscope. Several pieces should be sent to the pathologist.

Cervix

A biopsy may be taken with an ordinary scalpel or with an electric cautery. The area should be well cauterized after the biopsy of suspected cancer has been obtained.

Penis, Urinary Bladder

Biopsy may be taken for the penis as in the skin. A suspicious lesion of the bladder may be taken through the cystoscope and the remaining area well fulgurated.

Summary

A program for the practitioner in rural areas has been given. It is hoped that the physician in the country will make his office a center for the detection and the diagnosing of cancer. Early diagnosis and early treatment is the cure we have for cancer today. A complete physical examination on all patients and a biopsy on all suspicious lesions will help the country doctor to contribute to the detection and early diagnosis of cancer. We should all do our part

SIDE-GLANCES at HISTORY OF MEDICINE

BARBITAL

Emil Fischer of Germany synthesized Veronal (barbital) in 1903; he won the Nobel prize for his work on the structure of carbohydrates and amino acids.

Review Notes on Current Progress in Endocrinology: II

By E. A. HAUNZ, M.D., M.S.

*Dept. of Internal Medicine
Grand Forks Clinic
Grand Forks, North Dakota*

Diabetes Mellitus

NPH Insulin. The most significant therapeutic event in the field of diabetes in recent months has been the introduction and widespread distribution of NPH insulin, previously designated NPH 50 insulin. A successful two year trial in Denmark preceded its introduction here. The clinician should be familiar with the exact nature of its preparation which has distinct limitations as well as advantages.

NPH insulin may for practical purposes be visualized as a highly stable buffered mixture of unmodified and protamine zinc insulin in a ratio of 2:1. This ratio possesses the greatest therapeutic breadth of any combination in achieving modified timing effects. Its outstanding advantage is the elimination of the often hazardous mixing technique. Errors in measuring dosage are minimized and the patient is spared the worry of maintaining a constant supply of two kinds of insulin. The patient should be told that the vial of NPH insulin must be inverted several times before withdrawing the dose.

NPH is not the ultimate in the long search for the 'ideal' insulin. The ultimate insulin has been characterized as one which would be released to the body when needed and remain in depot when normoglycemia pre-

vails. In unstable or so-called "brittle" cases of diabetes which demand critical insulin timing, NPH is virtually as limited as any of the individualized mixtures or other long-acting insulins in maintaining a metabolic equilibrium. Afternoon hypoglycemia apparently is more common with NPH insulin. As a rule all patients doing well on a mixture of regular and protamine in a ratio of 2:1 can be easily converted to a dose of NPH equal to the total dose of the previous mixture. Exceptional cases insist that they 'don't feel as well' on NPH and prefer going back to the mixture.

It has been suggested that the diet ration may need revision to 1/5 (breakfast), 2/5 (lunch) and 2/5 (supper) when commencing therapy with NPH insulin. White and Gabriele and Marble were favorably impressed with the results of NPH insulin in juvenile diabetes. When necessary unmodified insulin may be added to the daily dose of NPH insulin, but the principal advantage of NPH is sacrificed. Fortunately the price of this new preparation is no higher than its predecessors.

NPH insulin does not permit more liberal management of diabetes mellitus than does any other insulin. Sippy warns that "far too often, insulin therapy is established without more than a halfhearted preliminary effort to achieve control by manipulation of diet." It is well to remember that insulin may be eliminated gradually in diabetes of recent origin, in cases past middle life, if clinical manifestations are mild or absent, if the fasting blood sugar is

ORIGINAL ARTICLES

below 200 mgm.%, or when the weight reduction is effected in moderate to severe obesity.

Jet injection of insulin. In 1947, an innovation appeared in the field of parenteral therapy. A mechanical device, the hypospray, has shown promise in diabetics who have a very low pain threshold or fear the hypodermic needle. Extremely fine pressured jets are capable of piercing the human skin, evoking only negligible pain. The so-called mata-pule (metal ampule) emits a 'jet' of insulin spray through a hole 0.0003 inches in diameter under 2300 to 3500 pounds pressure per square inch. The skin is penetrated to a depth of from 0.5 cm. to 2.0 cm. or more with a spread of the injected material over a diameter of 1.0 to 2.0 cm. A recent clinical trial in 20 diabetic patients disclosed that 1) patients preferred hypospray; 2) the degree of control of hyperglycemia and of glycosuria was equivalent to the conventional method; 3) no consistent alteration of speed, intensity or duration of action of insulin was apparent; and 4) no unusual cutaneous reactions were observed.

This method has been attacked by some physicians. Yet, such a method might prove valuable in those few cases who cannot be conditioned to the needle and who look upon their daily 'shot' as a grim ordeal. The hypospray is not at present for general use, but may be in the near future.

Potassium in diabetic acidosis. It has been a paradox that certain patients in deep diabetic coma first responded favorably to insulin, isotonic sodium chloride and sodium bicarbonate or sodium lactate, but later became rather suddenly worse and died. Conclusive evidence has been accumulated to indicate that

a number of diabetic coma deaths were due to hypopotassemia and might easily have been avoided by the judicious use of potassium.

The basic disturbances in diabetic acidosis are severe dehydration with resultant loss of fixed base and chlorides. The dehydration is extracellular and intracellular. The extracellular fluid loss is accompanied chiefly by sodium and chloride loss while the intra-cellular fluid loss is accompanied by potassium and phosphate loss. The old replacement therapy (without potassium) causes first a fall in the serum potassium level by expanding the extracellular fluid. The improved renal outflow causes further loss of serum potassium. Insulin therapy is simultaneously effecting glycogenesis in the liver and muscles, the latter tissues quickly replenishing their lowered potassium reserves by further depleting the serum potassium. The end result is an abrupt fall in serum potassium to a critical level.

The unbalanced loss of potassium and chloride in vomiting and polyuria is compensated for by a rise in extracellular bicarbonate so that a state of alkalosis usually occurs. Thus it can be understood that if more isotonic saline is administered intravenously, more potassium is lost with more chlorides, and the result may be fatal, whereas the use of potassium orally or parenterally may be life-saving. If given orally, potassium chloride in 2.0 gm. doses may be adequate. Not more than 2.0 gm. should be given intravenously in each liter. *The oral route is preferable (even by stomach tube or proctoclysis) since by this route there is less danger of inducing hypopotassemia.*

The clinician must be able to recognize definitively either hypo-

ORIGINAL ARTICLES

or hyperpotassemia. The electrocardiogram provides the most reliable distinguishing features: The principal electrocardiographic changes are the following:

Hyper—1. Tall narrow T waves, 2. Broadened QRS complex, 3. P waves may disappear.

Hypo—1. Lowering and broadening of T waves, 2. Lengthened Q-T interval, 3. Depressed S-T segment.

These changes disappear when potassium level is restored to normal.

Hyperthyroidism and Hypothyroidism

Radioactive Iodine

A fundamental concept of indications for the use of radioactive iodine is a definite responsibility of the family physician in view of the high index of remissions enjoyed by properly selected cases of hyperthyroidism treated in this fashion.

The newer isotope I^{131} has largely replaced I^{127} and I^{130} . Probably the foremost indication is in cases of toxic diffuse goiter with one or more post-operative recurrences of hyperthyroidism. Next cases of advanced age; precarious cardiovascular conditions; failure of response to, or toxicity from, propylthiouracil; and severe concurrent diseases nullifying any surgical approach.

The indications for I^{131} in nodular goiter with hyperthyroidism are less clearly defined, particularly in that the remaining nodules may be potential carcinomas and the patient being usually in the older age group is not the best candidate to endure the longer period of hyperthyroidism compared with the swift remission effected by surgery. Encouraging results have been reported in the treatment of certain types of thyroid carcinoma. "More knowledge regarding the long term effects of radiation from I^{131} on the tissues of

the body must be gained before its place in the diagnosis and treatment of diseases of the thyroid is finally established."

The diagnostic use of I^{131} is a valuable adjunct in assessing thyroid function. The rate and extent of uptake of I^{131} by the thyroid following a small dose of the isotope is a more direct index of thyroid activity than previous techniques accomplished.

It is important to remember that propylthiouracil and other antithyroid compounds interfere with the uptake of radioiodine by the thyroid gland. Thus, when patients are referred for application of the isotope such drugs should be discontinued for some time before its use.

The only complication known to occur from treatment in properly managed cases seems to be that of hypothyroidism.

Thiouracil Drugs

Propylthiouracil is the least toxic (about 2% reactions) of the thiouracil drugs. Methyl-Thiouracil does not possess high enough activity to compensate for its higher percentage of toxic reactions. Thiouracil finds some usefulness in cases intolerant to propylthiouracil.

The medical treatment of hyperthyroidism with these drugs still poses a rather complex problem. In a recent review of this subject Bell and Mishtowt outline four factors which now appear to be established:

1. The objective of successful therapy "should be to depress the BMR to zero or slightly lower and to maintain it at that level throughout the duration of treatment."
2. Prolonged treatment demands close vigilance with immediate recognition and proper management of toxic reactions.

ORIGINAL ARTICLES

3. Cases of primary hyperthyroidism (Grave's disease) with small glands and mild toxicity respond better than patients with large goiters and severe toxicity.
4. In cases of intrathoracic goiter, tracheal compression, toxicity to the drug, solitary adenoma, and poor co-operation, prolonged treatment is not feasible. Solitary adenomas should be excised.

Unfortunately no rule of thumb exists as a guide to duration of therapy. The problem must be individualized. Courses of therapy have varied from three months to two years. The result is generally unpredictable.

The use of thiouracil drugs in post operative recurrences of hyperthyroidism is controversial. The use of these drugs in preoperative therapy of hyperthyroidism is more definitive and widely accepted. The preoperative objective here is "full and complete control of hyperthyroidism." Dosage range is from 200 to 300 mgm. per day for propylthiouracil.

Lugol's solution (10 drops daily) is recommended only during the last three weeks of propylthiouracil therapy. If toxicity is severe and the patient critically ill iodine is also given during the first two weeks of treatment. The longer period of preparation for surgery coupled with the use of iodine during the last three weeks before operation have greatly reduced the surgical difficulty, namely an extremely friable, vascular gland.

In adenomatous goiter with hyperthyroidism iodine is said to be unnecessary.

Any discussion of antithyroid drugs should include comment on the new

preparation, "Tapazole," known chemically as 1-Methyl-2-mercaptoimidazole. To date this is the most potent anti-thyroid substance known. Tapazole and thioracil possess about equal toxicity. Due to its high potency the recommended dosage is 5 to 10 mg. three times daily. In ideal cases the BMR may begin to fall in about seven days. In large nodular goiters or in cases previously given iodine there may be no response for 30 to 60 days. Maintenance dosage may approximate 2 to 4 mg. three times daily after the hyperthyroidism is quelled. Its high potency warrants extreme caution.

In summary, the indiscriminate use of these powerful drugs in complete disregard for their distinct limitations and toxicity is inexcusable.

Thyroid Therapy

Probably no hormone is used as promiscuously as thyroid extract.

Among the pitfalls in clinical evaluation which may lead to an erroneous conclusion that thyroid replacement therapy is indicated the BMR probably stands foremost. Subnormal values often accompany obesity, neurasthenia, chronic fatigue, nephrosis, and anorexia nervosa in which the hormone is valueless. The blood cholesterol determination may also be misleading.

In myxedema six grains of desiccated thyroid is said to be capable of raising the BMR about 2.5% and approximately two grains of the extract are excreted daily.

In young adults with uncomplicated myxedema the so-called "rapid method" of therapy may be used. An average dose is six grains daily until equilibrium is restored, after which the maintenance dose is sought for. In uncomplicated cases

ORIGINAL ARTICLES

of the older age group a "moderate method" is suggested: an average dose of 4 grains daily until the BMR and the clinical symptoms are normal. The "slow method" is advised in cases with arteriosclerotic heart disease or renal failure. As little as $\frac{1}{2}$ grain daily for the first week, then gradually increasing the dose in each subsequent week, as suggested until optimal therapy is achieved.

Patients with short term myxedema may not only respond more rapidly but enjoy complete reversal of the clinical picture. On the other hand, cases of several years duration may continue to manifest certain characteristics despite optimal therapy.

Thyroid therapy should be withheld in cases of myxedema associated with adrenal insufficiency.

Management of the Menopausal Syndrome

The symptoms of menopause are so mild in most women that no treatment beyond simple reassurance is necessary. In moderately severe cases a mild sedative may be adequate.

Kimbrough warns that all menopausal women should be carefully investigated before estrogen of any

kind is administered, because this hormone, may accelerate the rate of growth of pre-existing carcinoma in the uterus, breast or in cases of associated metastases. The hormone should be interdicted in patients with familial history of uterine or mammary cancer and in the case of recent fibroadenoma of the breast or when uterine "fibromyomata" are present. Another contraindication to the use of estrogens is "premenopausal menstrual irregularity."

For severe menopausal syndrome oral estrogens are now believed efficacious. Every effort should be made to determine the minimum effective therapeutic dose to control symptoms, and to give this for only a limited period after which the dose is tapered off gradually. Gradual withdrawal prevents so-called estrogen-withdrawal bleeding. Yet, it is hazardous to assume that such uterine bleeding is due either to estrogen-withdrawal or prolonged estrogen therapy without careful survey, including pelvic examination and diagnostic curettage. Estrogen-induced uterine bleeding in post-menopausal women is indirectly responsible for many instances of neglected carcinoma of the uterus.

SIDE-GLANCES at HISTORY OF MEDICINE

EISENMENGER'S COMPLEX

Victor Eisenmenger in 1897 reported first a case of a cyanotic adult who had a large septal defect as observed at necropsy (V. Eisenmenger. *Die angeborenen Defekte der Kammerscheidewand des Herzens*. Ztsch. f. klin. Med. 32 (supp.):L, 1879). It was Maude Abbott, however, who, in 1924, showed that in Eisenmenger's Complex the aorta was overriding the defect of the septum; she first called this syndrome Eisenmenger's Complex (M. E. Abbott and W. T. Dawson. *Clinical Manifestations of Congenital Heart Disease*. Internat. Clin. 4:156. December, 1924).

Polycystic Ovarian Disease

By W. E. LOCKHART, M.D.
Alpine, Texas

The points to emphasize in management of polycystic ovarian disease are that it is essentially benign, the doctor should arrive at a careful differential diagnosis to exclude more important conditions and then should deal honestly and conservatively to achieve the best interests of the patient. The general practitioner attends these patients over many years and has the privilege of knowing the personal, marital and social consequences of the condition and its treatment.

Polycystic ovarian disease occurs in young, ovulating women and is usually associated with hyperestrinism. This point is important because a surgical attack on the cysts may sacrifice so much ovarian parenchyma that an abrupt hypoestrinism may be precipitated along with the catastrophic consequences of a premature menopause.

Pain and fear bring these women to the doctor. They are sensitive, fastidious, often maladjusted personally and socially. They place their faith in their doctor and are easily led or misled. The conditions of our times are difficult. It may be in the case of polycystic ovarian disease—as Meigs has suggested in endometriosis—that the condition is more frequent because of frustration of natural function: that is, want of gratification with delayed and infrequent child-bearing as a concession to economic and social circumstances.

The differential diagnosis in-

volves elimination of surgical conditions that are more emergent: acute appendicitis, intestinal obstruction, ectopic pregnancy, hemorrhage from a corpus luteum cyst, adnexal infection, torsion of the ovarian pedicle, renal colic and ovarian tumors. In some cases this distinction cannot be certain, and it will happen that at laparotomy the surgeon anticipating other conditions will find only polycystic ovaries. It is here that the woodman should spare the tree, for the surgical treatment of polycystic ovarian disease is almost nil—granted that the mass is of smaller size than the fist of the operator. The cysts may be punctured, but rough handling and suturing of the friable ovarian parenchyma are to be avoided. I have held a bit of rectus muscle against a bleeding point in an ovarian cyst to avoid suturing. Thrombin is effective topically in such a circumstance. Particularly to be condemned are unnecessary ovariectomy and so-called “wedge” operations which sacrifice precious tissue.

The medical management of the condition involves assurance of the patient that the condition, although annoying, is benign and capable of spontaneous resolution. “It is better to bear those ills we have than fly to others we know not of.” If the basal metabolic rate is normal, I prescribe one-half grain of thyroid, being sure that the tablets are fresh from the factory. Also, I prescribe a multivitamin capsule containing iron and calcium. It may be that certain cases could be managed by interruption of ovulation for several

ORIG
month
—as
Karn
nancy
The
deser
is a c
medd
Comm
made
Surge
preve

His

By R
Head
son I
tion,
—Chi
vision
Crys

Th
year
effect
beha
havi
even
ment
ficia
revie
whic
La
divic
the
of e
three
color
here
in a
temp

ORIGINAL ARTICLES

months by large doses of stilbestrol—as has been recommended by Karnaky for endometriosis. Pregnancy has a beneficial effect.

The timeless problem of honesty deserves special mention, for here is a condition frequently involved in meddlesome or needless surgery. Commendable efforts are being made by the American College of Surgeons and other organizations to prevent needless and especially mu-

tilating surgery. However, you cannot legislate or certify honesty. The problem was well expressed by Robert Burns:

"A prince can make a belted knight
A marquis, duke and a' that
But an honest man 's beyond his
might

Guid faith, he mauna fa' that

For a' that

And a' that."

History, Health and Climatic Fluctuations

By RAYMOND H. WHEELER

*Head, Department of Psychology, Babson Institute of Business Administration, Babson Park, Massachusetts—and
—Chief of Staff, Climatic Research Division, Weather Science Foundation, Crystal Lake, Illinois*

This is a brief summary of a 20-year program of research on the effects of weather trends on human behavior, mainly the kind of behavior that constitutes historical events. The project included experiments on white rats reared in artificial climates. The latter will be reviewed first because of the light which it throws upon the former.

Large numbers of white rats were divided into three colonies at about the age of three weeks. One third of each litter went into each of the three different colonies, hence each colony was made up of the same hereditary strains. One colony lived in a room heated to the constant temperature of 90 degrees F. An-

other lived in a room chilled down to 55 degrees. The third colony was left at ordinary room temperatures as a control group.

When about eight to ten weeks of age the three colonies were tested in a simple, standard, four-alley maze. The experiments were carried out in the rooms where the rats were living. In the first generation it took the hot rats more than twice as many trials to learn the maze as it did the cold rats—54 trials as opposed to 21. The control rats required on the average, 26 trials. But the cold rats were far superior to the hot ones in numerous other respects—size, aggressiveness, health, emotional stability, docility and fertility. The cold rats were much larger than their brothers and sisters in the hot room, larger, even, than those of the control room. The cold rats had four to five large, healthy litters a year while the hot rats had only two, on the average, in the first generation, and by the

ORIGINAL ARTICLES

fourth, the few rats that remained were nearly all sterile. The hot mother frequently ate her young, and always took poor care of them. The hot rats frequently bit their keeper, which the cold rats never did unless they were accidentally hurt or frightened. The hot rats were hyper-sex conscious and frequently sniffed one another, regardless of sex or of the time in the female cycle. The cold rats behaved like brother and sister until the female came in heat, whereupon action was definite and vigorous while in the hot room it was uncertain.

In another experiment cold rats that had just learned the maze were shifted to the control and hot rooms; hot rats that had learned the maze were shifted to the control and cold rooms, and control rats were shifted to the cold and hot rooms, except that in each case one third of the group was left in its original room as a control group. Then, after about 40 days, they were all required to re-learn the maze. The cold rats that had been moved to the hot room had by then deteriorated until they were almost as slow re-learning the maze as were the hot rats that had been left in their own room. The hot rats that were moved to the cold room improved so much that they were almost as fast re-learning the maze as were the cold rats that had been left in their own room.

The behavior patterns of the hot and cold rats bore many resemblances to the behavior patterns of warm versus cold climate peoples. Cool climate peoples are on the whole larger, healthier, more fertile, sexually less indulgent, more stable and more "docile", i.e., democratic, than warm climate peoples. These differences have been recognized since ancient times.

The climate of a given region, however, is unstable. There is a conspicuous 100-year climatic fluctuation. In the warmest part of the warm phase of this cycle mean annual temperatures, in the temperate zones, are several degrees higher than during the coldest part of the cold phase. The first part of each warm phase is wet, and the first part of each cold phase is wet. Thus the 100-year cycle is made up of the following phases which have repeated themselves in the order as given, regularly, throughout history. The phases are (1) warm-wet, (2) warm-dry (3) cold-wet and (4) cold-dry.

Each of these phases produces a particular kind of human behavior pattern. Nothing basic which human beings do, escapes. The climatic cycle is a cycle of nation building and falling. The best times in history—times that are measurably the best—occur during the transition from the cold to the warm phase of the cycle when temperatures average moderate to cool, and when rainfall is at a maximum. (Temperate zone rainfall or storminess is in itself a condition favorable to vitality and health aside from the fact that crops are better at that time.) The Golden Ages of history have almost always occurred during this phase of the cycle. Leadership is the best at this time and the incidence of scientific and artistic genius is greatest then, also. There are good grounds for believing that longevity is greater then, along with a sudden rise in the conception rate. That is, fertility increases. This is the "springtime" of the 100-year cycle.

As the warm period advances and it becomes dry, governments become despotic and the people either

ORIGINAL ARTICLES

lethargic on the one hand or fanatic on the other. In either state they are emotionally unstable. These are periods in history when despots and dictators reach a climax along with pogroms, massacres, facism, socialism and communism. These forms of government and economy are not tolerated during cool times. Decadence and moral decline are always associated with these forms of government.

But as it turns colder and as rainfall picks up again, societies start regaining their moral stamina and their physical and mental health. The birth rate, which had collapsed during the warm-dry phase now suddenly picks up again. After a warm-dry phase, and a period of dictators, and just as soon as it turns cold, the people start rebelling, and in course of time effect democratic reforms and create or revive democratic constitutions. Cold times are periods of revolution and civil war. New governments are formed under a new leadership. Then, as it starts turning warm again, a new era of nation building under strong governments gets under way and the cycle is repeated.

The last nation-building time in history and the last climatic transition from the cold to the warm phase of the 100-year cycle occurred at the turn of the century. This was the beginning of the warm-wet phase. The warm phase reached its climax, i.e., shifted from warm-wet to warm-dry, in the late twenties. The peak of the climax came in the 1930's. This was the dust-bowl season when unprecedented droughts and temperatures plagued all five continents of the earth. Along with the droughts and the heat came a climax of despots and dictators the world over,

along with socialism and communism. Parts of the world are still suffering from the dictator phase of the cycle but it is now in the process of turning cold and the police states are doomed. We are in the same place on the cycle, now, as at 1830. The 1820's were warm and dry and governments were despotic and reactionary the world over. Europe was dominated by the fascistic Austrian Prime Minister, Metternich. The prisons were full of political prisoners, and there was a wave of socialism at the time—the socialism which Marx so indifferently and incorrectly learned as a student!

It will be recalled that insurrections, civil reforms and civil wars followed one another in rapid succession after 1830. The cold phase of the 100-year cycle had begun and it lasted, with interruptions, until nearly 1900.

Now it happens that the climatic transitions from cold to warm and warm to cold are accompanied by revivals in rainfall. It is during these times that health is the best and fertility the highest in man and in animals. And they are invariably times of economic prosperity. The great depressions of history have always occurred when it was either hot and dry or cold and dry, i.e., when temperatures have run to extremes and when storminess has been at a minimum. Remember that the warm-dry phase is one of low fertility. Fertility goes down to some, but a lesser, extent, when it is cold and dry.

A study of booms and depressions on a year by year basis since 1794 shows that the majority of boom years are wet and depression years are dry. Depressions occurring during warm-dry times are fifty per cent more severe than those occurring during cold-dry times.

ORIGINAL ARTICLES

The boom we are in now is typical of cold-wet times, the phase of the 100-year cycle we are now in. There would have been a boom, but probably not so great a one, without the war. A long depression stretched across the warm-dry 1820's just as it did the warm-dry 1930's. Often a single, isolated dry year will be associated with a single isolated year of depression, and often a single wet year will be associated with a single boom year. That the wet periods of history have been prosperous and the dry periods unprosperous is a fact that can be traced back into ancient times.

The serious depressions that occurred in the 1830's and 1840's were associated with the cold-dry phase of the 100-year cycle. All the evidence leads to the conclusion that we are now heading toward a repeat performance. Cold-dry times are ahead and this means a depression era.

It must be concluded that the weather trends profoundly influence human behavior through their conditioning of the level of energy that is available, at any given time, for health and work.

The Use of Superheated Tungsten In Radiation Therapy

By HOWARD MOORE, M.D.

Since Creation, man has lived at the bottom of a sea of air whose upper surface lies 150 miles above the earth. Through this atmospheric ocean has penetrated the energy of the sun with a flow of various wave lengths from the short invisible ultraviolet rays through the narrow band of visible violet, blue, green, yellow, orange, and red rays, and thence beyond to the infra-red and the electro-magnetic rays. Physical Medicine has attempted to study these wave lengths and utilize their energy in the healing of human disease.

This division of medical art was founded on the remarkable results secured at the Rollier, Bernhard, Finsen, and other light clinics. Up

to 1938, every general treatise on physical therapy accorded light therapy the most important single position among the various agents which have been found to be of utility in clinical application.

In practically all of the textbooks of that period, the opening chapters are devoted to the employment of solar radiation in plant and animal economy. Likewise, all are in agreement that natural sunlight (heliotherapy), when and where available in suitable intensity, is therapeutically superior to that of any artificial source yet developed.

The spectral components of solar radiation reaching the earth on a clear, dry day comprise a continuous succession of wave lengths from approximately 3,000A in the ultraviolet to 200,000A in the infra-

ORIGINAL ARTICLES

red. However, because of low intensity, the effect of the wave lengths over 30,000A is negligible.

Two effects are produced in plant and animal organisms by the absorption of such energy.

(1) A **PHOTOCHEMICAL REACTION** induced by wave lengths from the lower limits of the ultraviolet (3,000A) to at least 5,500A in the visible yellow.

(2) A **PHOTOTHERMAL REACTION** induced by the remainder of the spectrum from 5,500A in the visible yellow to the infrared.

There can be little doubt that this photothermal action accounts for much of the recognized therapeutic action of sunlight. The over-emphasis of the ultraviolet component has obscured the physiological and clinical importance of the action of the visible and near infrared spectral energy. In fact, the close parallel that exists between plant and animal reactions to radiant energy within the solar range emphasizes the importance of the luminous portion of the spectrum, as an important component of a therapeutic light source.

This fact has been established in European sun clinics, chiefly those of August Rollier at Leysin, Switzerland, and Oscar Bernhardt at St. Moritz, Switzerland. Rollier states: "Every wave length of sunlight is absorbed in varying depths of tissue and in this way asserts its therapeutic action. It is for this reason that I have always insisted on the complete solar spectrum as a therapeutic entity." A study of the results of these clinics shows that always the muscles were firm and well developed under the warm skin. "The sun is the best masseur," states Rollier, and he apparently was the first to realize that the stim-

ulant light upon the skin induces and maintains muscle tone which is a form of muscular activity essential for the production of bodily heat. The tone of the muscles, thanks to the reflex response to the light is enough to form what Rollier calls, "the corset musculaire."

M. Luckiesh in his book **ARTIFICIAL SUNLIGHT**, stated, "from a biological point of view, visible red and short infrared radiant energy have therapeutic and tonic value. By expanding the blood capillaries, stimulating the sweat glands, and warming the tissues at a depth, they augment normal body processes."

It is interesting to note that the J.A.M.A. in its November 10, 1934 issue pointed out: "There is a general, almost universal, but wrong tendency to limit the biologic effects of radiant energy and their therapeutic action to the ultraviolet and particularly to the region between 2900 and 3100 Angstroms. . . . There is considerable evidence on the other hand that the luminous and infrared rays even if not specific in their action, aid the ultraviolet rays."

In 1927, E. E. Chaffee of Harvard University proved that by superheating a tungsten filament to about 3300K in a thin soda-lime bulb, a continuous ultraviolet spectrum, extending to 2900A was emitted. At that time, it was not believed that, tungsten, in filament form, would exhibit any radiation comparable to that of the sun in its shorter spectral range, and that soda-lime glass would transmit to a lower ultraviolet wave length than about 3300A.

Later, in 1931, Donald C. Stockbarger of the Massachusetts Institute of Technology confirmed Chaffee's findings, and in addition showed that, at the approximate

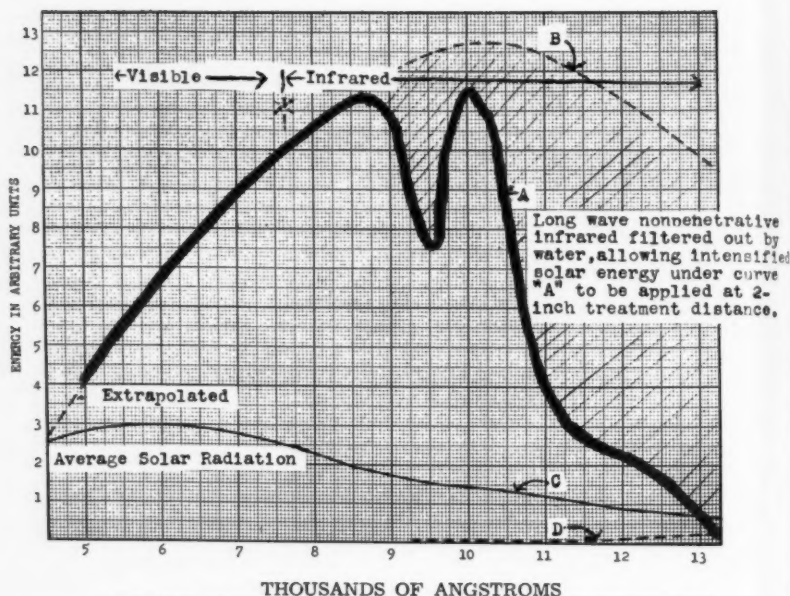


FIGURE I.* RADIATION FROM SUPERHEATED TUNGSTEN.

Curve A. Superheated Tungsten with 1" water cell, at 2 inches.

Curve B. Same, lamp without water cell.

Curve C. Relative intensity of sunlight.

Curve D. Relative intensity of a nonluminous source of infrared radiation which gives the same heating sensation as that of Curve A.

temperature of 3300K, a lamp with a fused-quartz bulb emitted to an ultraviolet wave length of about 2400Å.

It had been known for some time that the long-wave non-penetrative infrared radiation is increased by superheating. With only a 300 watt unit, efficiently reflected, the resultant radiation, applied for a few seconds, will be unbearable and surface injury would quickly follow its close application.

Since water and a few other clear liquids have the property of filtering out this undesirable nonpenetrative

long-wave infrared radiation, and still transmitting the desirable portion of the ultraviolet spectrum, the introduction of such a filter in the beam accomplishes this result in a simple practical manner.

By making the fluid-filter cell of suitable ultraviolet transmitting material, the remainder of the superheated spectrum may be applied in practically any desired degree of spectral extent.

Thus, the imposition of such a filter performs two important and desirable functions:

ORIGINAL ARTICLES

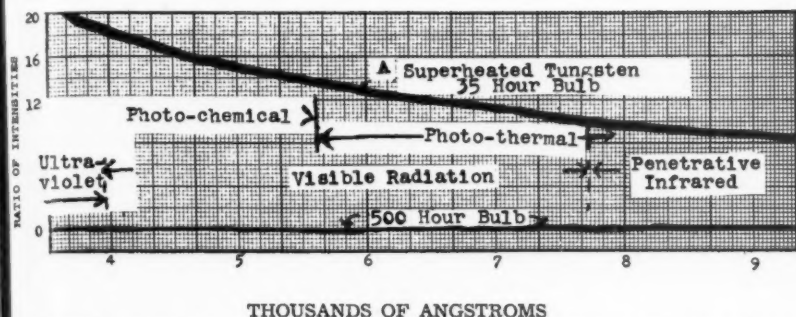


FIGURE II* SHOWING THE MARKED INCREASE IN INTENSITY OF THE THREE THERAPEUTIC DIVISIONS OF THE SPECTRUM PRODUCED BY SUPERHEATING TUNGSTEN.

1. Penetrative infrared increased approximately 9 times.
2. Visible radiation increased approximately 14 times.
3. Ultraviolet radiation increased approximately 21 times.

*Fig. I. C. Hawley Cartwright, M. I. T.

*Fig. II. George R. Harrison, M. I. T.

1. The elimination of all skin irritating infrared wave lengths; thus
2. Permitting the source to be applied in practical contact with the treatment field, with a resultant increase in intensity of all of the other desirable spectral components.

A diagrammatic illustration of these effects is shown in Cartwright's evaluation of a 200-watt experimental unit in Fig. I.

George R. Harrison's comparative Graph (Fig. II) indicates how superheating increases the intensity of the ultraviolet, visible, and penetrative infrared divisions of the spectrum.

Thus, by superheating tungsten, a great intensification of the three divisions of spectral energy known to account for the major therapeutic action of solar radiation has been produced.

SUMMARY

The reason for the supremacy of solar physiological action lies in its full spectral continuity of ultraviolet, visible and infrared radiations, which together produce a simultaneous photo-chemical and photo-thermal effect. By artificially amplifying only this non-irritating and penetrative radiation to an optimum intensity, a more profound clinical response in point of time and scope has been attained than by other means.

Conservative physiatrists such as Kovacs and orthopedic specialists—have stressed the clinical value of "radiant heat"; In his book, *PHYSIOLOGICAL EFFECTS OF RADIANT ENERGY*, Laurens calls attention to "the deep thermal effectiveness of high efficiency tungsten radiation."

ORIGINAL ARTICLES

A consideration of the filtered, superheated tungsten radiation shows that it not only makes clinically available the optimum amount of photo-thermal "radiant heat" (5500A to 14,000A) but also provides concomitantly, the photo-chemical radiation effects (3100A to 5500A).

The artificially produced energy of tungsten (3100A to 14,000A) not only duplicates the full spectral continuity of the effective therapeutic energy of sunlight, but also amplifies just this energy to about 4.5 times the average solar content.

The author has employed in his practice a superheated tungsten radiation unit for over a period of eight years. Marked results have been observed in the treatment post traumatic conditions including acute and chronic bursitis, certain arthritic

complexes, myositis, and the healing of stubborn septic lesions where the use of a natural form of deep heat is indicated.

BIBLIOGRAPHY

1. Duggar, Benjamin, "Biological Effects of Radiant Energy", (McGraw-Hill) N. Y. 1936.
2. Laurens, Henry, "Physiological Effects of Radiant Energy", Reinhold Pub., N. Y. 1933.
3. Luckiesh, M. "Artificial Sunlight", D. Van Nostrand Co. N. Y. 1930.
4. Mayer, Edgar, "Clinical Application of Sunlight", Williams & Wilkins Co., Baltimore, 1926.
5. Rollier, August, "Heliotherapy", Oxford University Press, London, 1923.
6. Salesby, C. W., "Sunlight and Health", Nisbet & Co. Ltd. London, 1923.
7. Stockbarger, Donald C. U. S. Patent Office File # 1,800, 277

DIAGNOSTIC SUGGESTIONS

Gaucher's Disease

Diagnosis is made on the basis of hepatosplenomegaly, wedge-shaped pingueculae in the conjunctivae, pigmentation on the lower part of the legs, bone lesions occurring in the head, neck and lower end of the femurs. Frequently there are hypochromic anemia, leukopenia and thrombocytopenia present. The cholesterol values in the blood are normal. The diagnosis is confirmed by demonstration of Gaucher cells (multinucleated) best obtained by sternal marrow aspiration. (M. Krim; A. Sawitsky; D. Krohn and L. M. Meyer. Arch. Int. Med. 3:418, March 1951).

Cancer of the Cervix

Women who marry before age 20, who are divorced or separated, and who have born all their children before reaching age 25, or who have cervical lacerations which are unrepaired, are prone to have cancer of the cervix. Furthermore, douching with lysol or similar products and late puberty are also predisposing factors of cancer of the cervix. Chronic irritation, infection, hormonal disturbances may be responsible for the high incidence rate of malignancy in these cases. (H. L. Lombard and E. A. Potter. Cancer, 3:960, 1950).

DIAGNOSTIC SUGGESTIONS

Fracture of Base of Skull

Symptoms of 1) fracture of anterior fossa: subconjunctival, palpebral and peripalpebral hemorrhage (protusion of globe, at times); bleeding from nose and mouth; escape of cerebrospinal fluids from nose (fracture of cribriform plate); blindness (hemorrhage into sheath of optic nerve. 2) middle fossa (fracture of temporal bone): bleeding from both ears; escape of cerebrospinal fluid from ears; partial or total deafness; brain tissue in external auditory canal (rare); facial paralysis (involvement of 7th nerve); loss of taste in anterior two-thirds of tongue (involvement of chorda tympani); tinnitus; vestibular disturbances—vertigo, nausea, vomiting, nystagmus, past-pointing—(involvement of labyrinth); paralysis of external rectus muscle; 3) posterior fossa: extravasation of blood on posterior part of neck; ecchymotic patch anterior to the mastoid process. (D. P. Cordray. *Ann. Otol., Rhin. & Laryngol.* 59:591. 1950).

Muscle Fibrillations

They may have the following diagnostic importance: 1) general sign of a changed reaction in chronic infections and intoxications (alcohol, strychnine and prostigmine); 2) indication to segmental involvement in chronic-degenerative anterior horn processes, cavity formations, hematomyelia and intramedullary tumors; 3) symptom of mild neuritic irritation; 4) visceral processes (muscular fibrillations in corresponding Head's zones); 5) lid fibrillation, recurring after long remission may point to dental inflammation at the corresponding upper maxilla. (J. K. J. Kirchhof. *Neue Med. Welt.* 40 41:1301 and 1345, 1950).

Meningococcemia

Typical findings are: acute febrile onset associated with widespread skin lesions and vague joint and muscle pains. The fever has a remittent type it is not high. The skin lesions may appear as amculopapular, petechial, hemorrhagic, purpuric or necrotic. They may be similar to those seen in erythema nodosum. The arthritic involvement is either multiple and transient or prolonged and monoarticular. Spenomegaly may be found. The diagnosis is ascertained by recovering the organism from the blood (F. G. Gerr and F. H. Mowrey. *U. S. Armed Forces Med. J.* 1:1179 October 1951)

Thyroiditis

Acute thyroiditis: sudden onset, local pain, tenderness and swelling: enlargement of regional lymph nodes; Fever, leukocytosis, possibly abscess formation. Chronic thyroiditis: more frequent occurrence than acute thyroiditis. Riedel's struma is a form of chronic thyroiditis, manifesting itself as firm, asymmetrical enlargement of the gland. Pressure on the trachea, esophagus, larynx, blood vessels and nerves develop. Edema and dysphagia are frequent. Hoarseness and aphonia have been observed. Another form is Hashimoto's disease, occurring chiefly in women at menopause. The compression symptoms are usually mild. The enlargement of the gland is bilateral, firm, smooth and freely movable. As to Riedel's struma, a malignant lesion must be excluded in the differential diagnosis; yet, a thyroid carcinoma usually develops in a pre-existing goiter. Both forms of chronic thyroiditis show either normal or slightly decreased BMR. (Frank W. Konzelmann. *Texas State J. Med.* 46:803, Nov. 1950).

DIAGNOSTIC SUGGESTIONS

Thyroid Deficiency

Hypothyroidism may cause nasal signs and symptoms. The mucous membranes may be red or pale, dry or wet, and irritated. These patients may be predisposed to vasomotor reactions, to nasal infections and nasal allergy. Headache is a frequent concomitant symptom. The diagnosis is made by exclusion, as these patients are not relieved by local or supportive measures. The BMR is low in most cases.

Parahemophilia

Also called "Owren's Disease." This syndrome has been reported only in the female but males should be equally affected. It is probably hereditary and is characterized clinically by epistaxis, ecchymosis, following trauma, menorrhagia and metrorrhagia. The congenital absence of a factor (Owren's Factor V) in the plasma, required for the conversion of prothrombin to thrombin results in prolongation of coagulation time and hemorrhagic manifestations. (A Syllabus of Laboratory Examinations in Clinical Diagnosis, ed. Thomas Hale Ham. Harvard University Press, Cambridge, Mass. 1950. p. 224).

Exophthalmos

John H. Mulvany, in 1944, gave what appears to be the best explanation yet offered. Mulvany divides exophthalmos due to endocrine disturbances into two distinct classes, thyrotoxic and thyrotropic. The first is caused by hypersecretion from the thyroid, the second by excessive hormone from the anterior lobe of the pituitary. In toxic goiter the muscles are not larger than normal—indeed they are smaller and flabbier, and there is no increase in the orbital fat and no edema. The orbit of the

patient with thyrotropic exophthalmos presents an entirely different picture. The extrinsic muscles are huge, edematous, and infiltrated with round cells, so that the orbital content is greatly increased, and as the only part of the orbit that can give way is anteriorly, where there is no bony wall, the eyeball is pushed forward. The tarso-orbital fascia which extends from the tarsal plate of the lids to the orbital wall is a tough, resistant membrane and reacts to this pressure by producing edema of the conjunctiva and episclera.

In order to differentiate between these two types of exophthalmos and avoid doing an unnecessary and perhaps unwise operation, Mulvany stressed the following points: Thyrotoxicosis is essentially a disease of young adults, and is three times as common in women. There are other signs of toxemia, such as rapid pulse, loss of weight and strength; and the basal metabolic rate is increased. Locally there is no edema of the lids or conjunctiva and there is no resistance as the eyeballs are pushed back into the orbit.

In thyrotropic exophthalmos these local signs are all present due to the overdistended orbital contents, and the general signs of toxic goiter are not found unless the two conditions occur simultaneously. Thyrotropic exophthalmos is more common in men around 50 years of age.

One type of exophthalmos which should be mentioned is that of arteriovenous aneurysm. This is a very unusual complication of childbirth, but it can occur. About 77 per cent of this kind of exophthalmos are traumatic in origin, and the rest are spontaneous. (E. L. Goar. New Orleans M. & S. J. 12:609, June 1950)

THERAPEUTIC SUGGESTIONS

Peripheral Vascular Disease

In arteriosclerosis obliterans and in thrombangiitis obliterans (Buerger's Disease) the following therapeutic measures are recommended: 1) procedures used for vasodilatation: warm environmental temperature, generally and locally; foreign protein (typhoid vaccine) intravenously; hypertonic solution of sodium chloride intravenously; ethyl alcohol orally; anesthetization of sympathetic nerves and ganglia; tetraethyl-ammonium chloride; regional sympathetic ganglionectomy. 2) control of pain: tissue extracts, barbiturates, salicylates, opiates, demerol, ethyl alcohol orally, surgical section or crushing of peripheral nerves, amputation. 3) treatment of ulcerations and gangrene: prophylaxis (avoidance of trauma), fungus control, warm soaks, wet dressings, tyrothricin locally, sulfonamides orally, penicillin parenterally, powdered red blood cells, debridement of gangrenous tissue, amputation of digit or limb. 4) newer drugs of questionable or unproved value: ether intravenously, histidine and vitamin C, vitamin E, histamine intra-arterially. (N. W. Barker. *The Journal Lancet*, 2:58, February 1957).

Pain

Sublingual administration of Theryl (Church Chemical Corp., Chicago, Ill.) has been recommended (theryl is a combination of acetylsalicylic acid and benzosulfimide) for the control of pain. The sublingual route is shorter than the intestino-portal route to conduct acetylsalicylic acid into the blood stream. This administration is valuable for patients in which the oral intake is not permissible, for instance after surgery. (R. W. McNealy, Ill. *Med. J.* March 1950).

Kraurosis Vulvae

Antihistaminic drugs, both topically and orally, combined with estrogenic ointments, held the pruritus in abeyance and, thus, the trauma inflicted by constant scratching could be almost entirely eliminated. Secondary infections were reduced. Objectively, ulcerative lesions and leukoplakic areas seemed to disappear. However, only in a few instances was there a restoration to normal. The use of antihistaminics with estrogenic ointment has provided the best results obtained in fifteen years of this investigation of the therapeutics of Kraurosis vulvae. (R. B. Greenblatt. *Ciba Clinical Symposia*, 1:27; January-February 1951).

Seborrhea—Acne Complex

In seborrheic conditions treatment consists of local or systemic administration of drugs. Locally the author recommends a composition of sulfur, 3%; salicylic acid, 3%; cetyl alcohol ta: listillate, 4%, in a water-miscible base (trade name; Pragmatar—Smith, Kline & French Laboratories, Philadelphia, Pa.). When seborrhea becomes secondarily infected, wet compresses with 1:40 Burrow's solution, bacitracin or thyrothrycin are indicated topically and antibiotics or sulfonamids or both systemically. Acne may be treated (when x-ray treatment is not available) with ultraviolet lamp to the point of producing slight erythema. A topical preparation recommended by the author is Acnomel (sulfur and resorcinol), also distributed by Smith, Kline & French. Estrogenic hormones in females, Vitamin A and also Vitamin D (irradiated ergosterol) have been used with success. (M. M. Robinson. *Medical Annals, Distr. of Columbia*. 3:138, March 1951)

THERAPEUTIC SUGGESTIONS

Hiccup

In protracted hiccup, intravenous injection of 2 to 5cc. of coramin is recommended as it suppresses the clonic spasms of the diaphragm. (F. Schell. *Mod. Med.* Jan. 15, 1950, p. 18). Galvanic stimulation in three steps of 20 minutes duration is suggested: 1) electrodes placed bilaterally at the 4th cervical vertebra; 2) one electrode at the 4th cervical vertebra region, the other over diaphragm at the anterior axillary line and 8th rib. 3) the electrodes are applied to the opposite side (F. G. Barnard. *Am. J. Surg.* 77:230, 1949). 10cc. of calcium gluconate intravenously has also been advised (E. H. Rockwitz. *Mod. Med.* Sept. 1, 1949, p. 23). Quinidine sulfate — initial dose of 10 grains, followed by 5 grains every 23 hours orally—has been given with success in other wise intractable cases (S. Bellet and C. S. Nadler. *Am. J. Med. Sc.* 216:680, 1948). Other remedies mentioned in the literature are: amyl nitrate, ether (subcutaneous injection of 0.5cc), inhalation of 5-10% carbon dioxide in oxygen (prolonged administration may be toxic), benzedrine sulfate.

Ammonia Dermatitis

Ammonia dermatitis in infants was treated with diapharine chloride ointment which has a bactericidal effect on *Bacterium ammoniagenes* and *Staphylococcus aureus*. Of 107 infants treated by application of the ointment at the time of diaper change all but 8 cleared up in from one day to three weeks. 3 of the failures were probably due to an atopic infantile eczematoid dermatitis with secondary infection. The ointment has no sensitizing qualities (M. L. Niedleman and A. Bleier. *J. of Pediat.* 37:762, November 1950).

Enuresis in Children

Treatment comprises: 1) an epidural Injection of 10 cc. of 2% novocaine; 2) belladonna (if the pH of urine is normal, then on the following days belladonna should be administered by mouth 15 days a month—powder of belladonna leaves 0.005 per year of age); an alkaline or acid modifier (if the urinary pH is abnormal, this should be given by mouth, 15 days a month—NaCl, 2 teaspoons, noon and evening, if pH is less than 5.5; phosphoric acid, 20 drops noon and evening, if pH is higher than 7). This treatment should be persisted in for several months since sometimes results do not appear immediately. (M. Brisot and P. Marchais. *Ann. Med.-Psychol.* Paris, 108:500, November 1950)

Amebiasis

In amebic dysentery 1 gr. of emetine hydrochloride may be administered subcutaneously twice daily for three consecutive days. In cases in which there are no acute symptoms present, 0.67 gr. may be sufficient. 12 hours before the first emetine injection 0.25 gm. carbarsone is given by mouth and continued for four days three times daily. After discontinuation of carbarsone 0.25 to 0.5 gm. of diodoquin is prescribed three times daily for one week, taken orally. In most patients this regimen will lead to cure. It should be noted that emetine has a toxic effect on the heart muscle in high doses; but if the total dose remains less than 12 gr. a toxic reaction may not be expected. (J. A. Barga-Mayo-Amebiasis (amebic colitis): *Present Day Management.* Illinois Med. J. 97:129, 1950).

Tetanus

Tetanus should be treated with penicillin. The dose should be 100,000 units per day. Power of the toxin is neutralized by antitoxin. Curative treatment is rare. Junctional may be treated with Tetracycline. Rarely, the alleged action should be there. Bosis is adequate effect. Doses of laxatives and thionin should be used.

Diabetes

The vitamin rutin is fragile. It is a blood purifier. Administer 120 mg. of vitamin C. Ambulatory should be rechecked. Breff. New 103:1.

THERAPEUTIC SUGGESTIONS

Tetanus

Tetanus antitoxin and penicillin should be administered in the treatment of tetanus. Furthermore drugs should be chosen "which have the power of causing muscular relaxation without a general sedative effect." The sedative should act rapidly and should not be cumulative. Curare should be administered intramuscularly in form of d-tubocurarine chloride in wax and peanut oil. Curare blocks the myoneural junction. When given too long it may cause a shock like symptom. Tetanus toxin acts on the synapses of the spinal cord. Instead of curare myanesin has been used which allegedly has a central depressant action on the cord synapses. It should be given intravenously; there is some risk of venous thrombosis which can be avoided with adequate dilution. Myanesin is also effective when given orally in large doses. Recently another muscle relaxant has been described: decamethonium iodide or CIO. *Edit. Intern. Med. Dig.* 1:59, Jan. 1951.

Diabetic Retinopathy

The best recommended drugs are vitamin P with special reference to rutin which influences capillary fragility and permeability, and dicumarol because of its effect on blood coagulability. Rutin can be administered in doses of from 20 to 120 mg. daily, best combined with vitamin C. Rutin can be used on ambulatory cases while dicumarol should only be applied to hospitalized patients. (G. M. Haik; L. A. Breffeilh and M. R. Harrington. *New Orleans Med. and Surg. J.* 103:151, October 1950).

Leukemia

X-Ray therapy given locally is the treatment of choice in the chronic leukemias and in the malignant lymphomas whenever there is marked localized lymphadenopathy or splenomegaly. General body spray radiation or radioactive phosphorus are the most effective agents for the more diffuse varieties of chronic leukemias and malignant lymphomas. Urethane is a valuable adjunct to radiation in chronic myelogenous leukemia. Folic acid antagonists therapy and ACTH or cortisone will produce temporary partial remission in some cases of acute leukemia, particularly acute lymphatic leukemia. (E. H. Reinhard. *Mississippi Valley M. J.* 2:54, March 1951).

Parathion

Dr. D. O. Hamblin, Medical Director of the American Cyanid Company, has pointed to the toxic complications in the use of parathion (O-O-diethyl O-p-nitrophenyl thiosphosphate) which has proved to be a highly efficient insecticide or pesticide, with a widespread use in agricultural communities. Exposure to parathion brings about the systemic effects of cholinesterase inhibitors: giddiness, headache, nausea, vomiting, abdominal cramps, diarrhea, miosis, sweating, salivation, lachrymation, confusion, weakness, and muscular fasciculations. Fatalities may be due to constrictions and secretions in the bronchi or arrest of heart. Recovery may be complete if atropine grain 1/100 to 1/50 is given at once and then hourly to keep the patient fully atropinized. Postural drainage of bronchi may be necessary. Oxygen is then indicated.

BOOK REVIEWS

The Effect of Atomic Weapons

Prepared for and in Correlation with the U.S. Department of Defense and the U.S. Atomic Energy Commission: J. O. Hirschfelder, Chairman of Board of Editors. McGraw-Hill Book Company, Inc., New York, 1950. 456 pages. Cloth.

A penetrating survey of all, not only the medical problems of the effects of atomic bomb explosion. All the theoretical and practical features involved are critically and comprehensively treated. This book is to be highly recommended.

The Biochemistry of B Vitamins

By Roger J. Williams, Robert E. Eakin, Ernest Beerstecher, Jr., and William Shive. Reinhold Publishing Corporation, New York, 1950. 741 pages. Cloth.

This book is an extensive source of information on B vitamins. It is divided into four parts: definition, biogenesis and distribution of the B vitamins; catalytic effects; the action of these vitamins in both animals and plants; discussion on the various fractions of B vitamins. The physiological and clinical presentation of part III is particularly interesting.

Noses

By Harold M. Holden, M.D. The World Publishing Company, Cleveland and New York, 1950. 236 pages. Cloth.

A refreshingly entertaining treatise prepared by a plastic surgeon, who scrutinizes the medical, physiognomic, aesthetic and artistic history of the nose through the centuries. A fascinating reading after the daily toil. Handbook of Child Guidance. Edited by Ernest Harms. Child Care Publications, New York, 1947. 751 pages. Cloth. Somewhat belated, but very earnestly, we wish to stress the value of this handbook for every family physician as a reference for childhood problems. It is one of the best and most significant presentations of child guidance, this reviewer has read.

Handbook of Antibiotics

By A. L. Baron. Reinhold Publishing Corporation, New York, 1950. 303 pages. Cloth.

A manual, outlining the available information of all antibiotics in use up to 1950. It is a well arranged and enlightening presentation of this subject, which is still in the stage of development.

Medical Neuropathology

By I. Mark Scheinker, M.D. Charles C. Thomas, Publisher, Springfield, Illinois, 1951. 372 pages. Cloth.

Dr. Scheinker's impressive way of presenting intricate problems is again demonstrated in this work. According to the author's predilection the relationship of blood vessel alterations and nervous disorders has been put into the foreground. The many case histories and the excellent illustrations give the book its clinical value.

Urine and Urinalysis

By Louis Gershenfeld, B.Sc., P.D., Ph.D., D.Sc. 3rd Edition. Romaine Pierson Publishers, New York, 1950. 347 pages. Cloth.

An extensive study on kidney functions, physiology and pathology of the urine, qualitative and quantitative tests and microscopic examinations. Urinary calculi, tests of less proved value and kidney function tests are dealt with in special chapters. The introductory chapter on the history of urine examination is excellent.

Psychosurgery in the Treatment of Mental Disorders and Intractable Pain.

By Walter Freeman, M.D., Ph.D., F.A.C.P. and James W. Watt, M.D., F.A.C.S., F.I.C.S. Charles C. Thomas Publisher, Springfield, Illinois. Second Edition, 1950. 638 pages. Cloth.

This is essentially an elaboration on 617 (562 living) patients on whom prefrontal lobotomy was performed, preceded by a masterly description of the functions of the frontal lobes and the operative technic. The authors are rightly optimistic as to the results when the indications for the operations are drawn up strictly and when the postoperative rehabilitation is in experienced hands.

A History of Biology

Revised Edition. A General Introduction of the Study of Living Things. By Charles Singer. Henry Schuman, New York. 571 pages. Cloth. \$5.

Dr. Singer is professor emeritus of the University of London and is an M.D. as well as a ScD. This revised history of biology contains practically a history of medicine. Dr. Singer presents his subject in a lively manner and the historical topics and figures are revived in their present day importance.

BOOKS RECEIVED

Books reviewed or listed will be procured for our readers if the order addressed to CLINICAL MEDICINE, Wilmette, Illinois is accompanied by a check or money order for the published price of the book.

A History of Medicine

Vol. 1. By Henry E. Sigerist, M.D. Oxford University Press. 1951. 564 pages. Cloth. \$8.50.

Diseases of the Tropics

By George Chever Shattuck, M.D. Appleton-Century-Crofts, Inc. New York, 1951. 802 pages. Cloth. Yearly Surgical Digest. By Richard A. Leonardo, Froben Press Inc. 1950. 293 pages. Paper.

Essay on the Cerebral Cortex

By Gerhardt von Bonin, Charles C. Thomas, Publisher. Springfield, Illinois, 1950. 150 pages. Cloth. The Clinical Use of Radioactive Isotopes. By Bertram V. A. LowBeer, M.D. Charles C. Thomas, Publisher. Springfield, Illinois. 1950. 414 pages. Cloth.

Hemodynamics in Failure of Circulation

By W. B. Yonhaus, M.D., Ph.D. and A. R. Huckins M.S., M.D. Charles C. Thomas, Publisher. Springfield, Illinois. 1951. 80 pages. Cloth.

Crimes of Violence

The Report of a Conference on Crime. Sponsored by the University of Colorado, August 14-18, 1949, on the Boulder Campus. 109 pages. Cloth.

Annual Review of Medicine

Windsor C. Cutting, Editor and Henry W. Newman, Assoc. Editor. Vol. I. Annual Reviews, Inc. Stanford, California, 1950, 454 pages. Cloth.

Clinical Examination of Patients

With Notes on Laboratory Diagnosis. By John Forbes, M.D. and W. N. Mann, M.D. Baltimore, Williams and Wilkins Company, 1951, 323 pages. Cloth.

Surgery—Orthodox and Heterodox

By Sir William Heneage Ogilvie. Charles C. Thomas, Publisher. Springfield, Illinois, 1948. 241 pages. Cloth.

Henry Cushing. Surgeon, Author, Artist

By Elizabeth H. Thomson. Henry Schuman, New York, 1950, 347 pages. Cloth.

A Handbook for the Diagnosis of Cancer of the Uterus by the Use of Vaginal Smears

By Olive Gates, M.D. and Shields Warren, M.D. Third Edition. Harvard University Press. Cambridge, Mass., 1950. 214 pages. Paper.

Methods in Medicine

The Manual of the Medical Service of George Dock, M.D., Sc.D. By George R. Herrmann, M.D. Ph.D. Second Edition. The C. V. Mosby Company. St. Louis, 1950. 488 pages. Cloth.

Handbook of Pediatric Emergencies

By Adolph C. DeSanctis, M.D. and Charles Varga, M.D. The C. V. Mosby Company, St. Louis, 1951. 284 pages. Cloth.

An Integrated Practice of Medicine (Progress Volume)

By Harold Thomas Hyman, M.D. W. B. Saunders Company, Philadelphia and London, 1950. pp. 4133-4867. Cloth.

Child Psychiatry in the Community

By Harold A. Greenberg, M.D. G. P. Putnam's Sons., New York, 1950. 296 pages. Cloth.

Diabetes Insipidus

By Henry Blotner, M.D. Oxford University Press, New York, 1951. 195 (plus 2) pages. Cloth.

Introduction to Surgery

By Virginia Kneeland Frantz, M.D. and Harold Dortic Harvey, M.D. Oxford University Press, New York, 1951, 233 pages. Cloth.

Toxemias of Pregnancy

Human and Veterinary. A Ciba Foundation Symposium. Editors: John Hammond, F. J. Brownie and G. E. W. Wolstenholme. The Blakiston Company. Philadelphia, 1950. 280 pages. Cloth.

Cancer As I See It

By Henry W. Abelmann, M.D. Philosophical Library, New York, 1951. 100 pages. Cloth.

SEND FOR THIS LITERATURE

1. **Allergies** (colds)—new antihistamine
2. **Dietary deficiencies**—daily vitamin supply
3. **Respiratory infections**—penicillin inhalation
4. **Psoriasis**—oral drug
5. **Bronchial asthma**—sustained management
6. **Respiratory stimulant**—for the newborn
7. **Cough**—antitussive syrup and tablets
8. **Sulfonamide** — triple sulfa combination
9. **Rheumatic fever**—management
10. **Antihistamines**
11. **Functional Uterine Bleeding** — management
12. **Pain control**—saddle block and higher spinal analgesia
13. **Whooping cough**—relief
14. **Premature labor** — habitual and threatened abortion—management
15. **Congestive heart failure**—mercurial diuretic
16. **Birth control**—diaphragm and jelly
17. **Sore throat**—alkaline germicidal solution
18. **Cough**—management
19. **Acute bronchitis**—treatment
20. **Inflammatory glandular swelling**—topical decongestive treatment
21. **Insomnia**—gentle sedation
22. **Appetite**—tonic
23. **Functional amenorrhea** — management
24. **Peptic ulcer**—demulcent
25. **Postoperative abdominal distention** and urinary retention — prevention and management
26. **Hemorrhoids**—relief of pain and inflammation
27. **Skin affections**—therapy
28. **Gastric neurosis**, pylorus spasm, nausea—management
29. **Sedative**—without habit formation
30. **Arthralgia** (bursitis), lumbago—ointment
31. **Pregnancy test**
32. **Allergies**—management
33. **Bronchial asthma**—prolonged relief
34. **Infant feeding**—milk-free formula in allergic reactions
35. **Infant nutrition**—information
36. **Cough**—palatable creosote preparation
37. **Eye hygiene**—decongestive lotion
38. **Headache**, neuralgia—pain relief
39. **Obesity**—dietary management
40. **Arthritis**—colloidal gold sulfide therapy
41. **Trichomoniasis**, moniliasis — vaginal suppositories
42. **Constipation**—relief
43. **Pruritus**—management
44. **Cardiovascular disorders** — management
45. **Blood sugar**—12 minute test

Use Postage Free Card for Ordering Free Literature

NEW PRODUCTS

Obedrin Tablets. Semoxydrine hydrochloride (metamphetamine) and pentobarbital sodium.

In addition vitamin B complex

Indication: obesity

Tablets Kheslisem Visammin. Vasodilator effect

Indication: Coronary disease.

S. E. Massengill Company, Bristol, Tennessee.

Sulfamylon. One of the newest sulfa drugs.

Indication: otitis externa, as Sulfamylon destroys pseudomonas, the most common cause of most cases of external otitis.

Winthrop-Stearns, Inc., New York.

Dosis: Instillation of a 1% aqueous solution into the ear canal.

Methostan. Brand of methylandrostenediol, 17 alpha-methyl-delta⁵-androsterone-3-beta, 17 beta-diol). Tablets and aqueous suspension.

Indication: retarded growth, diseases with protein wastage—vomiting, diarrhea, fever, dehydration, diuresis, hyperthyroidism, pituitary basophilism, adrenal cortical hyperfunction, burns.

Schering Corporation. Bloomfield and Union, N.J.

Ferrophyll. Exsiccated ferrous sulfate 200 mg., sodium potassium copper chlorophyllin 25 mg., and vitamin B₁₂ 2 mg.

Indication: hypochromic and secondary anemias.

Lakeside Laboratories, Inc., Milwaukee, Wis.

Benzestrol with Phenobarbital. 1 mg. Benzestrol and 16 mg. Phenobarbital.

Indication: menopause

Schieffelin & Co., New York, N.Y.

NOTES on MEDICAL STATISTICS

BLOOD PRESSURE

Normal blood pressure covers a wide range. A recent study among industrial workers shows that the systolic readings have a range of about 30 mm among persons in the third decade of life, and 50 mm or more after age 50. The range of the diastolic readings is 25 to 30 mm. The average systolic and diastolic readings rise with age. Systolic blood pressure shows an accelerated rise after age 50, but diastolic blood pressure does not. The level of blood pressure at which a significant increase in mortality occurs varies with the age. The latest insurance study shows that between ages 30 and 39 this level is around 130-135/90, but after 50, it is 145-150/90-95. Mortality rises rapidly with increased elevation of either systolic or diastolic blood pressure. At ages 30-39, the mortality is double the normal for those with readings of 140/95 or 150/90; at ages 50 and over, for those with blood pressures of 150/100 or 160/90. (L. I. Dublin; E. C. Bonnett and D. B. Armstrong, *Studies in Prognosis. Metr. Life Ins. Co. Sept. 1950 pp. 1-2*).

MODERN TREATMENT *Relieves* EYE IRRITATION

OPTREX is a refreshing, decongestive ocular lotion which quickly relieves ocular irritations, such as eye strain, resulting from close work, reading, movies, television, dust and wind, bright artificial lighting, fatigue.

OPTREX IS UNSURPASSED IN DAILY OCULAR HYGIENE and is prescribed and used by specialists throughout the world following treatment of the eyes.

The scientifically designed eye cup which comes with every bottle permits a soothing, antiseptic treatment of the entire surface of the eye and eyelids.

Your patients' eyes are important, see that they get the best of care. Prove for yourself how **OPTREX** will relieve eye strain. Send for generous trial bottle.

The Chemdrug Corp.

730 Fifth Avenue, New York 19, N.Y.

SEX MANUAL

For Those Married or About To Be

Written for the Layman

Fifth Edition, Revised. A medical best seller. Eleven printings, 300,000 copies.

By G. Lombard Kelly, A.B., B.S.Med., M.D., President and Professor of Anatomy, Medical College of Georgia.

With a foreword by

Robert B. Greenblatt, B.A., M.D., Professor of Endocrinology in the Medical College of Georgia.

Ethically distributed. Sold only to physicians, medical students, nurses, medical bookstores or on physicians' prescription. This policy strictly adhered to.

Some of the 25 chapters cover sexual lubricants, use of condom, first intercourse, frequency, positions, clitoris contact, orgasm delay by local anesthesia, impotence, climacteric, birth control, etc.

Paper cover, 88 pp. (35,000 words), 12 cuts, Single copy, 76c; 2 to 9 copies, 66c ea.; 10 to 24 copies, 61c ea.; 25 to 49 copies, 51c ea.; 50 to 99 copies, 46c ea.; 100 or more, 41c ea. P JSTPAID.

Terms:—REMITTANCE WITH ORDER; NO COD's. Satisfaction guaranteed. Retail price, \$1.00 to patients in medical bookstores, or when sold on prescription. Descriptive folder on request.

SOUTHERN MEDICAL SUPPLY CO.

P.O. Box 1168K

Augusta, Ga.

NOW AVAILABLE CACODYNE

An Isotonic Colloidal
Iodine Cacodylate

Indicated: In all ARTERIAL DISEASES — Coronary, Cerebral, Mesenteric — Hypertension, Angiitis Obliterans.

Frequency of administration is reduced with improvement and gradually withdrawn when symptom free.

For intramuscular or intravenous injection.

No known contraindications.

**CACODYNE CREATES
CARDIAC RESERVE**

**For Reprints and Information
Address**

**RESEARCH
MEDICATIONS
INC.**

542 Fifth Avenue
New York 19, N. Y.